TS-430S Noise blanker improvements

Author: *Trio-Kenwood Communication, inc.*

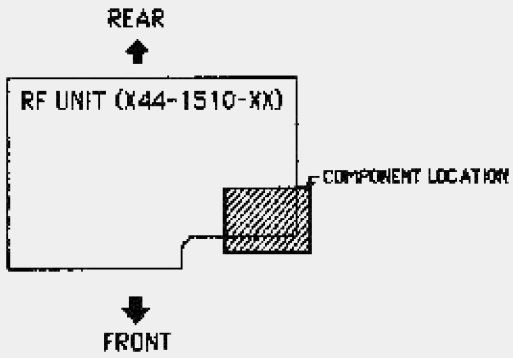
Service Bulletin no. 887 (17-10-1984)

Some operators have indicated a desire to have their TS-430S noise blanker operate similar to the noise blankers in the TS-120S/130S series. By performing the following modification the operator will be able to increase the effectiveness of the TS-430S Noise Blanker circuit.

Procedure

On the RF unit (X44-1510-xx) change the following components.

R80 change to a 100 Kohm ¼ Watt resistor (RD14CB2E104J)
R81 change to a 56 Kohm ¼ Watt resistor (RD14CB2E563J)
C125 change to a 560pF 25V disc capacitor (CK45BIH561K)



This is an optional change and may not be performed in-warranty.

No realignment is required.

Kenwood ts-430 AGC mod

The type of speech processor circuit used in the ts-430 is an agc (automatic gain control) driven audio frequency amplifier.
By decreasing the time constant substantially, the speech processing effect will be improved.
The modification is very simple.

Replace capacitor c104 4.5 uf on the if board by a smaller value of o.47 uf.
To Modify This Capacitor

1. Remove the if board as indicated for the cw filter installation.
2. Remove c104 from the board.
3. Mount a 0.47 uf capacitor on the board.
4. Mount the if board as indicated by cw filter installation.
5. You are now fully operational again.
6. Adjust the mic gain without the processor until normal alc deviation.
7. Switch the processor on and adjust vr7 near c104 until normal ALC deviation. (do not alter the mic gain at this time)

8. Enjoy the speech processor improvement.

Transmit enable for mars/cap frq for the TS-430S

For MARS and CAP transmit capability, a minor change is required:

1. Unplug the DC power cable.
2. Remove the top and bottom covers of the set.
3. Locate the RF unit connector 10. Diode D39 is near the connector (labeled D39 on the circuit board). Take a small pair of diagonal cutters and clip the lead at the top of the bend.
4. Locate IC-2 on the Control Unit, under the IF unit. Resistor R148 is near IC-2, clip the resistor lead.
5. This completes the modification. Reassemble the unit, being careful not to pinch any leads.

Mods for the kenwood TS430S for amtor

The mods are as follows:-

On the I.F.board change C-164 from 0.22mfd to 10nfd..50v change C-60 from 10mfd to 4.7mfd. 16v....
Parallel a 150kohm resistor across R.109 usuing a small switch or by whatever means you can design to switch this resistor in and out.
In for arq and out for all other modes. some people use the send/rec switch, others have used the noise blanker switch. I have used a small mini switch which i have mounted in place of

the left front rubber foot.

It will probaly help to cut diode d-50 on the i.f.board. If you use a 500hz filter in the cwn or ssbn position then parallel a 10mfd capacitor across C-10 or C-8. add a 10mfd capacitor across C-161.(actually i found that these last two were not necessary in my 430S.)
You will find it best to take the audio from in front of the volume control, but those people usuing audio from the speaker socket seem to get ok results. Really you can get away with just the first two mods, change C-60 and C-164. this originally came from VK2AGE. 73s de larry in ravenshoe.

TS430 power fault - ANSWERS

Follows my original posting and answers.

>As you read in the subject I have some sporadic but very annoying troubles
>with my 1988 Kenwood TS430s. This is what happens to my gear (and the same
>occours to the rig of a friend of mine):
>
>Approx. every 3-4 hours of CW operation (while working without any problem)
>the power output drops down to a few watt (tipically duringa pileup and when
>the dx sent 'ik3huk 599...'). During this power-loss the ALC level is low
>(regularly).
>To have back the full power I have to do the following:
>-Turn CARRIER knob fully clockwise (full power position - ALC doesn't move)
>-Key down for several seconds (very looooong time when in pileup)
>
>I sent the radio to a laboratory for repair (and friend of mine did the same)
>but they're not able to reproduce the power-fault when the radio is on their
>table. They cleaned up all the relais, but the RTX is still loosing power.

This sounds suspiciously like a problem I had with my 430 on voice. It would behave quite similarly, losing power and becoming distorted on an occasional basis. There was a well reported problem with early 430's where the finals were riveted, but not soldered, and the rivets could eventually develop a high electical resistance, with ensuing power problems. This was diagnosed and corrected by Kenwood early, so I doubt it would be a problem in a unit manufactured as late as yours. (I bought mine in late 1984, and it already had a modified PA -- believe me, I checked!)

My problem turned out to be a marginal connection in the internal switch on the XVTR jack on the back of the rig. This is the connector with 8 pins. The switch is integral to the

connector and works when the plug is inserted. The fix was to insert and remove the plug in the jack several times. Since I have done this, my 430 has never shown this symptom again.

I wish I could claim to have deduced this myself, but it was pointed out to me by a friend who read it in a snippet from someone in QST. To whoever took the time to send in that suggestion, I am eternally grateful. Hope this solves your problem, too.

```
--
Rob Stampfli  rob@colnet.cmhnet.org      The neat thing about standards:
614-864-9377  HAM RADIO: kd8wk@n8jyv.oh  There are so many to choose from.
-------------------------------------------------------------------------
-----
```

To all Kenwood users:

The 430 has a corresponding problem to the older rigs:
specifically the 520(S), 820(S), 530S, and 830S rigs....

Power drops while running... if this occurs, tighten the screws on the driver board and IF board.

Had this happen to me and friends a few times...also watch out for the coax connector on the back...they get loose too...no lock washer on the back.

73,
Tom
wb9rxj@uiuc.edu

Diego,
I had a similar problem with a 430. Mine was intermittent. Finally one cold day [0c] it became permanent. I traced my problem to an open via connection on one of the final transistor bases. This resulted in that device not getting a dc return to ground. I re-soldered the via to my success!
I found it by checking dc bias on each final transistor and found one being different in voltage reading.

Good luck,
regards
George Hawkins

Here is a solution I heard of for a problem like yours. Perhaps it will be of use to you. Luckily, I have not had any problems with my TS430S. I'm very pleased with it.

Hope this is of use to you.

73 es GL.... Mark KG7JL

KD7EV advises intermittent power output problems on his '430 was cured by installing a more conventional nut on the rear panel UHF style antenna connector. Apparently a faulty ground connection at this point caused a change in the VSWR which affected the sensing circuit and thus reducing the RF output power.

Guarda che io ho lo stesso problema con un ICOM IC-745. Ogni tanto la c'e' una protezione che va in funzione e la potenza va giu'. Nel caso mio probabilmente c'e' un problema di corrente di fuga da compensare opportunamente, ma per te potresti provare a vedere se con una semplice vantola puoi risolvere il caso. Infine, tanto per confermare che per me i diavoletti che muovono gli elettroni esistono, il problema c'e' solo di estate, quando la temperatura esterna e' sopra i 20 gradi (... qui in Olanda). Faccio notare che dentro casa la temperatura e' circa la stessa.

Saluti

I0WTD-PA3FWP
Stefano

(In this article Stefano I0WTD told that he had a similar problem on his IC745 and suggested to put a blower on the radio to solve it out. 'His' power fault happened only on summer. (mine in winter too !!) ik3huk)

TS-430S Intermittent PLL Unlock in FM/AM

Author: *Trio-Kenwood Communication, inc.*

Service Bulletin no. 888 (17-10-1984)

Some owners of the TS-430S have reported intermittent loss of transmit and Receive when operating in the FM or AM modes, along with a loss of the digital display.

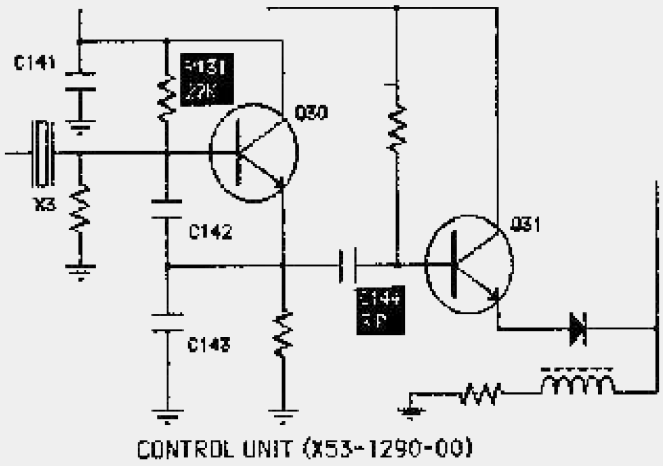
The cause of this may be due to a loss of the FM/AM Heterodyne Oscillator signal. Replacing the components listed below will correct most instances of this failure.

Procedure:

ON the Control Unit (X53-1290-XX) change R131 to a 22 K ohm 1/4 watt carbon resistor, and change C144 to a 3 pF 25v Disc ceramic capacitor.

Time required for this modification is 30 minutes.

No realignment is required.



TS-430S PLL Unlock at High Temperatures (Revision)

Author: *Trio-Kenwood Communication, inc.*

Service Bulletin no. 895 (14-9-1985)

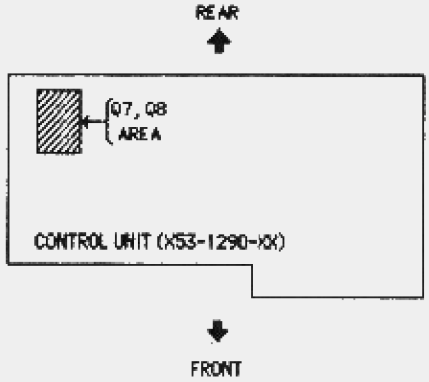
This service bulletin supercedes bulletin 891, which concerned low input level to IC-16 as the radio warmed up. This bulletin incorporates information contained in Bulletin 891 plus additional information.

PROCEDURE:

On the Control Unit (X53-1290-XX)

Check transistor Q8. If it is not a 2SC1815Y change it to this type (Serial numbers 408XXXX-509XXXX).

For serial numbers before 408XXXX change R29 to 820 ohms and C41 to 100 pF.



In addition to the changes listed above check for the following signals:
(You must check these at a dial frequency of exactly 14.000.000 MHz)

TP-1 6.0v (L18 adjusts)
TP-2 70 MHz
TP-3 45.3 MHz
TP-4 6.35v (L10 adjusts)

Time required for this modification is 1 hour or less.

19-07-1998

TS-430 extended coverage. Include 0-150 KHz

Author: *Wim Beekman*

Date: 25-Oct-1988
This modification is to include the receiving range from the TS430 from 0-150 kHz.

Connect a resistor from 1K from IC1 pin 14 to ground in the PLL Unit.

(Pin 14 from IC1 goes to the base of a transistor.)

The best way to do this, is by soldering the resistor at the solder side of the PLL Unit PCB.

19-07-1998

TS-430S Reset the microprocessor

For those of you wanting to know how to reset the microprocessor in the TS-430S, here's what it looks like in the service manual:

1) FUNCTION SW:A
POWER SW:OFF
Set the POWER SW ON
while depressing the A=B
key. Then release the
A=B key.

Hope this helps someone...

26-01-2000

Kenwood TS-430S, no display, no RX/TX with certain modes

Author: *Colin Robertson - R.Robertson@ru.ac.za.MODIFICATION.NET*

I recently acquired a Kenwood TS-430 with an intermittent fault. The rig would occasionally perform normally but the rest of the time the display and RX would be dead only in the LSB, USB and CW modes. The rig would also not transmit in all modes.

The number of factory “add-on” components found under the PC boards on the rig was a real surprise. The Control and IF boards were first checked for dry joints and several were found, but the fault persisted. All switching circuits appeared to check out fine. After searching the Web for assistance, a mod described in a Kenwood Bulletin for a similar display problem was tried without success. A change in our hot summer weather seemed to indicate the problem was temperature related as the rig worked normally for longer periods under colder conditions. Freeze spray was then tried on all accessible components on the Control and IF Unit boards. No joy!

A QSO with Roger ZS1J, who used to run a ham radio outlet in Natal for several years, had him recalling a similar problem he had encountered some years ago on two TS430’s brought in for repair. The culprit in both cases turned out to be leaking LED’s on the mode selector switch indicators. He suggested this area be check out.

Removal of plug 13 from the Control Unit board (X53-1290-00) proved Roger correct and brought the rig back to life. There was a very low leakage on the LSB, USB and CW indicator LED’s. Exact replacement LED’s for D3- D7 were not obtainable locally, so to get around this, 1N4004 diodes were installed in series with the 5 leads on plug 13. The diodes

were soldered directly onto the pins in plug 13 (with cathodes facing away from the plug side), and the plug reconnected to the board. The rig is now fully functional again.

It‘s incredible that the same LED’s should fail in three different rigs! Obviously just a bad batch of components used! Maybe this mod can restore a dead TS-430 that someone has given up on.

Colin Robertson
ZS2CR
East London, South Africa
25 January 2000

Packet: ZS2CR @ ZS0ELD
e-Mail: R. Robertson@ru.ac.za

23-03-2000

No signal on the meter

Author: *Mike WP4COQ - corsino@attglobal.net.MODIFICATION.NET*

I have a Kenwood TS430 that was transmiting and receiving fine except that the signal meter was not showing any signal on the AM,CW,LSB,USB.

I open the radio and found that the VR3 pot that is on the X48-1370-00 board was defective, i just replaced the pot with a new one and it start to receive the signals again.

09-04-2000

TS-430S 500KHz Hetrodyne

Author: *Trio-Kenwood Communication, inc.*

Service Bulletin no. 865 (23-3-1983)

Some users of the TS-430S have reported a hetrodyne signal at the 500KHz point on the band. This tone may be reduced or eliminated by the following procedure.

Parts required

Qty	Description	Kenwood parts number
1	.001 µF disc cap.	CC45B1H102K
1	220 pF disc cap.	CC45SL1H221J
1	470 µH coil	L40-4711-13

Procedure

1. Remove top and bottom covers.
2. Turn radio bottom up and locate PLL unit (X50-1910-00).
3. Remove the sex (6) screws securing the PLL unit to the chassises and fold the unit over, to allow access to the foil side of the circuit board.
4. Remove the jumper wire that is installed between TP-1 and C6. Install the parallel circuit consisting of the 220 pF capacitor and the 470 µH coil in its place. See figure 2.
5. Install the .001 µF capacitor as shown in figure 2.
6. Reinstall the PLL unit and replace the top and bottom covers.
7. No alignment is required.

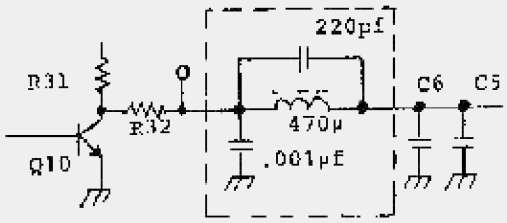


Figure 1

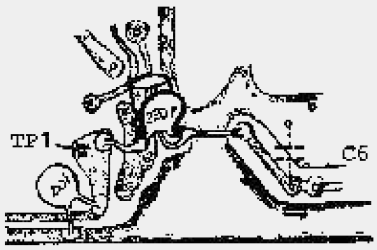


Figure 2

Note: This change may be performed at the owners option and may not be performed in-warranty.

09-04-2000

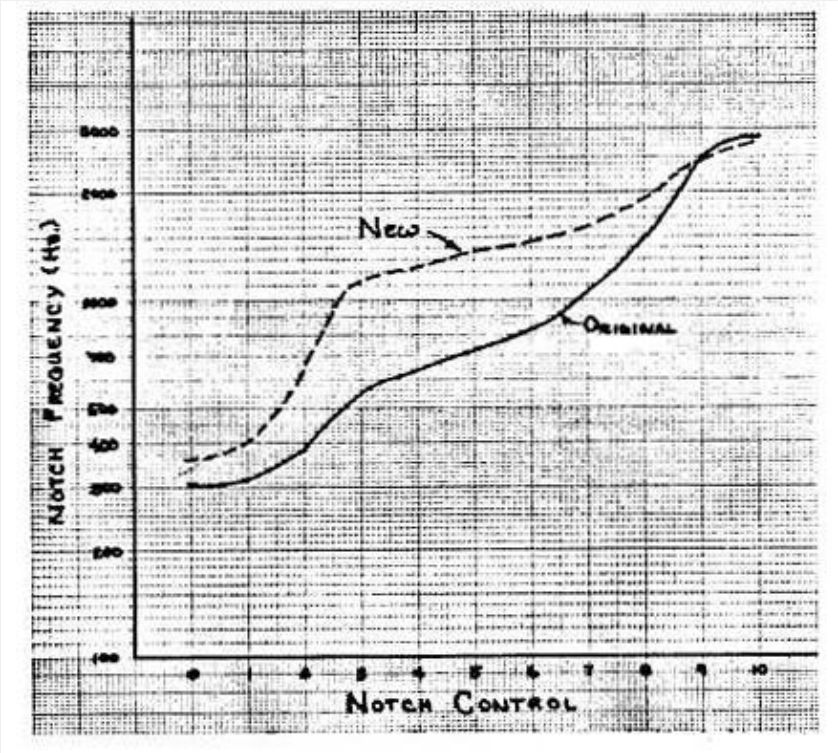
S-430 Notch Control

Author: *Trio-Kenwood Communication, inc.*

Service Bulletin no. 882 (7-11-1983)

Notch/Squelch control (VR5) may be replaced with part number R24-9403-15, to allow greater flexibility in adjustment. As can be seen from the chart below, the curve is smoother

on the high frequency side (1 KHz to 2.7 KHz), making tuning easier. VR5 is located on Switch unit (X41-1470-00).



09-04-2000

TS-430S AM Wide/Narrow filter selection

Author: *Trio-Kenwood Communication, inc.*

Service Bulletin no. 883A (8-12-1983)
Service Bulletin no. 883B (8-12-1983)
Service Bulletin no. 883C (8-12-1983)
Service Bulletin no. 883D (8-12-1983)
Service Bulletin no. 883E (8-12-1983)
Service Bulletin no. 883F (8-12-1983)

This procedure will allow selection of the Wide or the Narrow filter for AM.

Parts list

Qty	Description	Circuit designation
2	2SA1115(E) Transistor	Q401, Q402
4	1S1555 Diode	D401-D404
1	4.7 Kohm 1/8 Watt	R405
2	22 Kohm 1/8 Watt	R403, R404
2	47 Kohm 1/8 Watt	R401, R402
	Insulated hookup wire ½28 goage or larger	
1	Short jumper	

Modification procedure:

Caution: This modification requires advance soldering and printed circuit board modification techniques, and should only be performed by experienced kit builders and or technicians. If you are at all unsure of your ability to install this modification after reading these instructions, please have someone with more experience perform the modification for you.

1. Remove the power connector from the radio.
2. Using a #2 Philips screwdriver, remove the top cover (8 screws). Be careful of the VOX controls, and the speaker lead, which may be unplugged.
3. Loosen the two countersunk side screws and remove the 2 screws securing the IF unit bracket. Swing the bracket up slightly to access and remove the two heat sink screws, Swing the assembly down.
4. Remove 7 screws from the IF unit. Protect the top of the front panel from scratching.
5. Desolder IB1 and discard (use a 45 watt or less iron, and solder wicking).
6. Locate the white jumper wire that is plugged on to the "S" terminal of the IF unit. Desolder the wire from its present location, and reinstall as shown in figure 1.
7. Install a short jumper wire, as shown in figure 1.
8. Cut the foil paths as shown in figure 2. There are five locations that must be cut. CAUTION: Ensure you cut only the traces as shown in the figure. Spend a little extra time to ensure you have correctly identified the trace to cut.
9. Install J401, J402 (may all ready be installed), J403, D403, D404, R403, R404, and R405 as shown in figure 2 (use the shortest lead lengths possible). Check to ensure there are no solder bridges, or splashes on the board.
10. Install Q401, Q402, R401, R402, D401 and D402 as shown on figure 2, again being careful to check for solder bridges, short, etc.
11. Check to see if D82 is installed, as shown in figure 1. If it is not, install it (1S1555). D83 should also be installed on the foil side of the board, as shown in figure 2.
    Note: Some unit's have D82 and D83 installed, if so go to step 12.
12. Move the filter select jumper to the "A" pin, as shown in figure 1.
13. On control unit (x53-1290-00), cut the lead of resistor R129.
14. Solder a jumper wire to the metal lead of resistor R129, as shown in figure 5. Connect the other end to IF units connector 18 pin 2 from the foil side of the board as shown in figure 4. The wire may be conveniently routed between the circuit board and the chassis.
15. Install insulating tape below the area of the modification to ensure that no components short out against the case.
16. This completes the modification procedure. The TS-430S will now select either AM Wide or Narrow. Before reassemble, go back through the procedure and check you work, to ensure no

errors have been made.

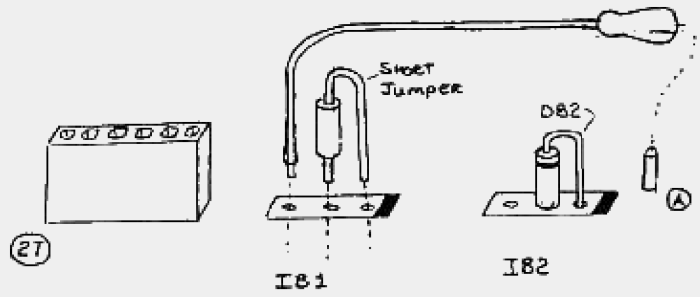


FIGURE 1

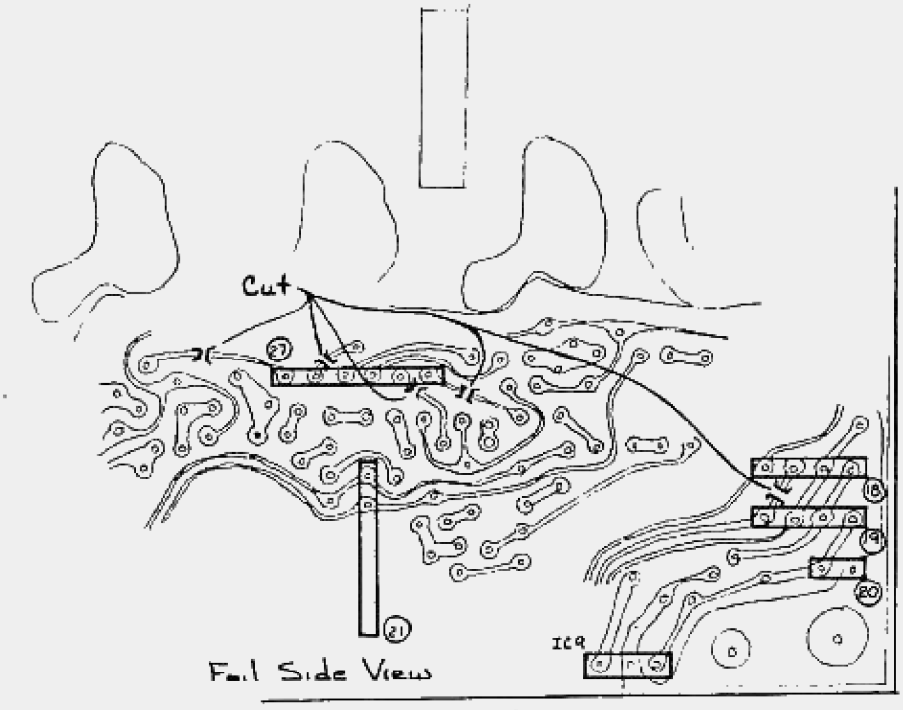


FIGURE 2

J402
J403
D403
R405
J401
R404
D403
D404
R403
Foil Side View
FIGURE 3
Q402
D401
R401
R402
D401
To Control Unit R129
D402
Foil Side View
FIGURE 4

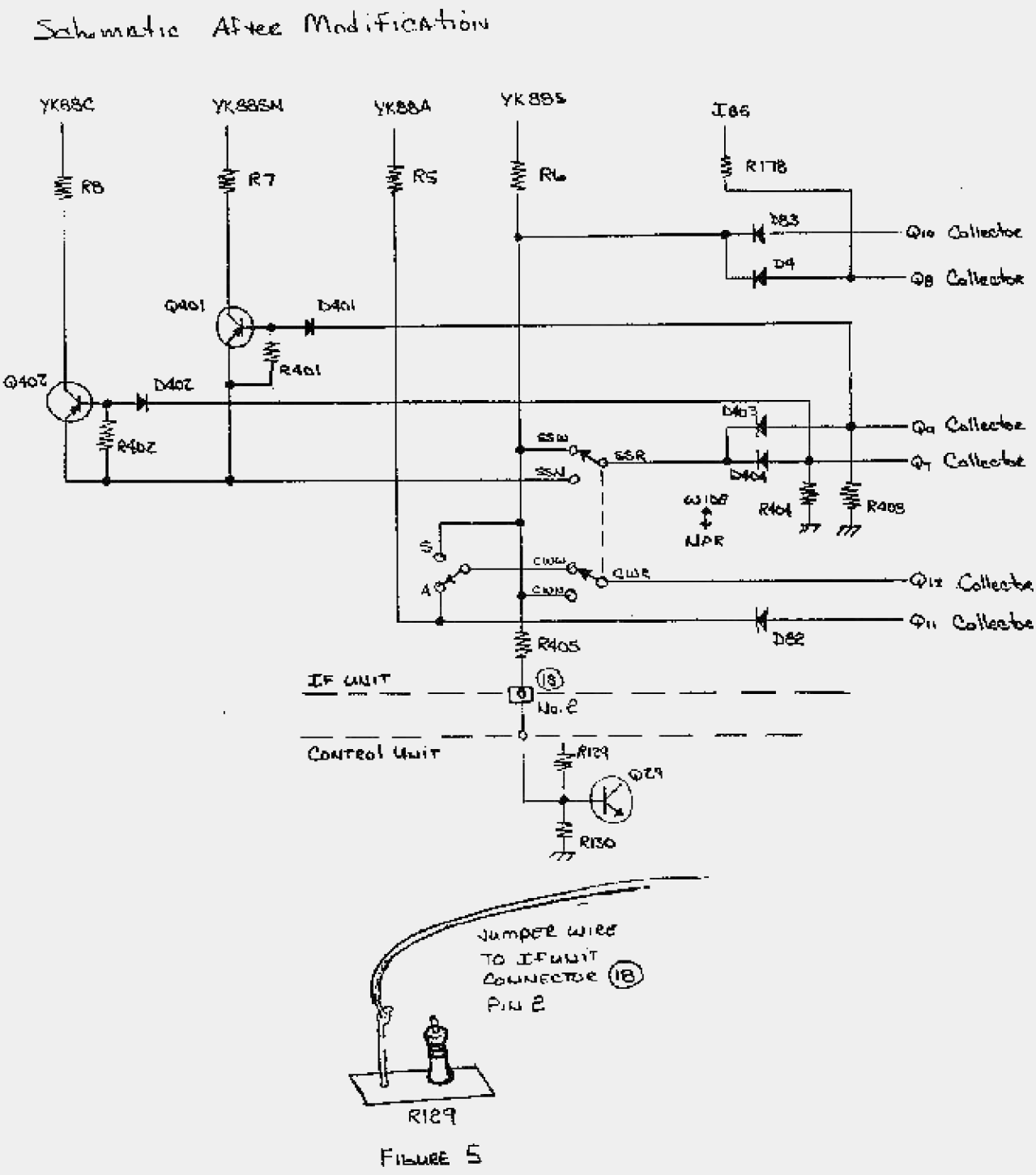


FIGURE 5

Note: This is an optional change and may no be performed in-warranty.

09-04-2000

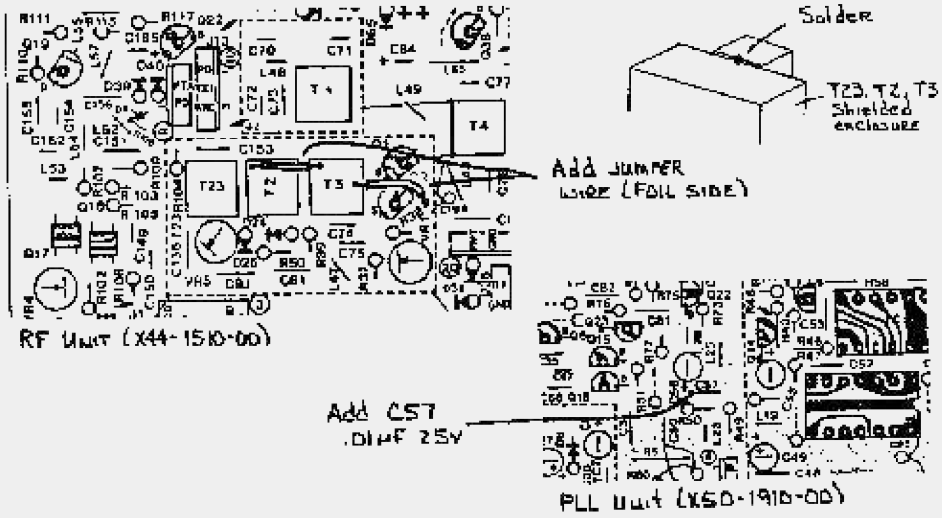
TS-430 receiver internal beat

Author: *Trio-Kenwood Communication, inc.*

Service Bulletin no. 885 (27-1-1984)

For reports of an internal beat at 20.415 MHz or at 21.526 MHz perform the following modification.

1. On the RF unit (X44-1510-00) add a short jumper wire from the primary ground of transformer T2 to the primary ground of T3 as shown.
2. Add a jumper from the ground of the secondary of T3 to the ground side of capacitor C194, as shown.
3. Solder a jumper from the shield surrounding T1 to the shield surrounding T2, T3 etc. It may be possible to just bridge the two cases together with solder, either way is acceptable.
4. On PLL unit (X50-1910-00) locate the position shown for capacitor C57. This capacitor was not installed at the factory, install a .01 µF 25V disc ceramic capacitor.



This change is applicable to units prior to serial number 407xxxx.

Time required for this modification is ½ hour or less.

This modification may be performed in-warranty on a case by case basic.

TS-430S Low/intermittent RX

Author: *Trio-Kenwood Communication, inc.*

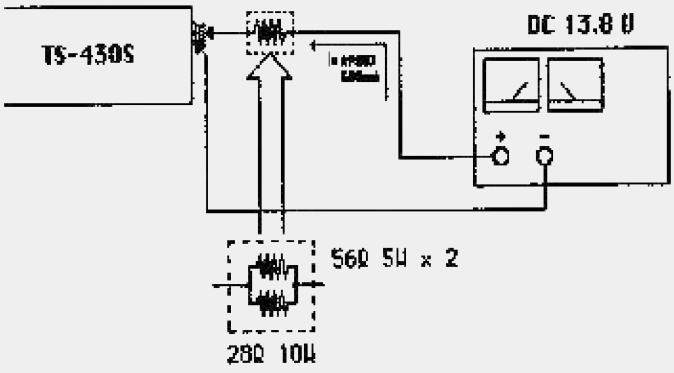
Service Bulletin no. 902A (18-10-1985)
Service Bulletin no. 902B (18-10-1985)
Service Bulletin no. 902C (18-10-1985)

Low or intermittent receive on the TS-430S may be caused by a poor contact on one or more of the LPF relays. In most cases the following procedure will correct this problem without having to replace relays. The procedure has two steps; first initial cleaning of the contact by passing a relatively high current thru them (about 500 mA), and then installing a contact maintenance circuit that will apply a relatively low current (about 8 mA) whenever a new band is selected.

Procedure:

I. Initial contact cleaning procedure.
Parts List:
56 ohm 5W ceramic resistor (R92-0622-05)… 2 mA

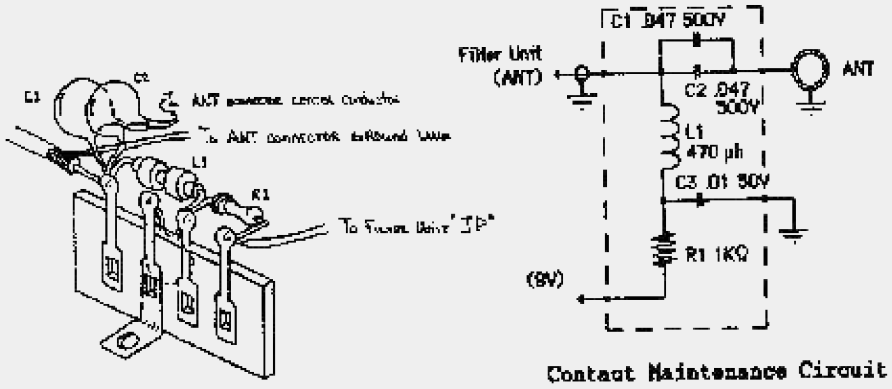
1. Press and hold the "UP" bandswitch of the TS-430S (ensure the 1 MHz switch is ON).
2. Apply 13.8V DC to the antenna terminal thru a 28 ohm, 10W resistor for approximately 1 minute. This will cycle thru all the relays and burn any axidation/contamination from the contacts.



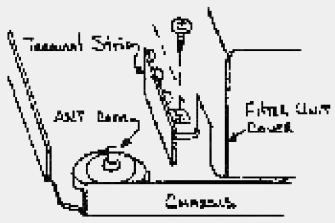
II. Contact maintenance circuit installation.
Part List:

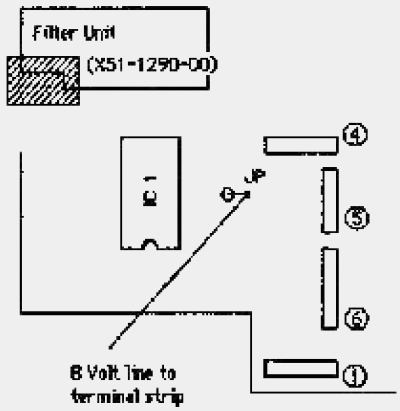
Terminal Strip (E22-0371-05)
C1, C2 (CK45D2H473M) .47 µF 500V
C3 (C91-0117-05) .01 µF 50V
L1 (L33-0259-05) 470 µH
R1 (RD14CB2E102J) 1 Kohm ¼ Watt
Small length of hookup wire ……. 6 inches

1. Disconnect the center lead of the coaxial cable from the antenna terminal.
2. Install the contact maintenance circuit as shown in the accompanying diagrams. Attach the terminal lug strip with one of the filter unit over screws.
3. Solder the 0v lead to the "JP" terminal of the Filter Unit.



Contact Maintenance Circuit





This procedure should may be performed only to those units received for this specific repair symptom. Time required for this procedure is 1 hour or less.

Mod talks about 28 ohm and 56 ohm resistors. Which one goes between the power supply and the radio?

As the diagram states, use either one 10 Watt 28ohm resister or two 5W 56ohm resisters.

24-07-2001

Circuit Improvements for the TS-430S

Author: *Richard L. Measures, AG6K*

Note: The component locater information is correct with the operator facing the front of the radio.

Problem: Poor noise-blanker [NB] performance on pulse noise. This is caused by an over-enthusiastic NB AGC which causes the NB to shut down prematurely. **Fix**: Change R81 on the RF unit from a 10K Ohm to a 24 -30K Ohm. R81 is near the front of the board between connectors #7 and #16.

Problem: Lack the transmit capability on non-amateur frequencies. **Fix:** On the RF Unit , remove connector #10 and remove pins #2 and #3 by pressing the release tabs on the side of the connector with a small jeweler's screwdriver and sliding the pins in the direction of their wires. The loose pins should be covered with insulating tubing so they won't short out to the other circuits.

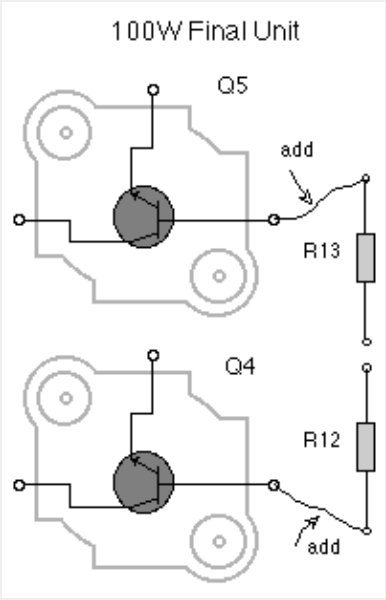
Problem: 9.5db of treble roll-off at 2800Hz in the receive audio. This makes the audio sound muffled and hard to understand. **Fix**: On the IF Unit, between L4 and connector #24, change C42 from a .033µF to a .003µF - .0047 µF non-inductive capacitor. A disc ceramic capacitor or a non-inductive Mylar unit will do the job. **Note**: To prevent operator fatigue, after this modification is made, the RF Gain control should not be operated any higher than is necessary to just begin to hear the sky-noise on the particular band being used. In this way, weak stations can still be heard, but the background sky-noise will not become annoying.

Problem: Lack of crispness in transmit audio. This can be due to the carrier oscillators periodically needing adjustment as the components in the radio age. The adjustment is made on the Control Unit. Two, small ceramic trimmer capacitors are located next to two crystals in the lower left hand corner of the board. The designators are TC3 and TC4. The capacitor nearest the front of the radio adjusts LSB. The other capacitor TC4 , adjusts USB. With the IF shift on "0" , these adjustments can be set "by ear" while listening to a broadcast station tuned to zero -beat. The carrier oscillators can also be adjusted by transmitting into a wattmeter/dummy load while feeding about a milli-volt of audio into the microphone jack. As the audio frequency varies, the power output will fall off at the edges of the crystal filter passband, or "window". Set the audio frequency to 1000Hz and adjust the microphone gain to produce 40 watts output. Lower the frequency to about 300Hz . Adjust the carrier oscillator to produce 10 watts. The rest of the problem is caused by a 4.5db roll-off at

2800Hz in the microphone amplifier. **Fix**: Change C96 on the IF Unit, next to connector #10, from .015µF to a .001µF [1000pF/1nF] disc-ceramic capacitor.

Problem: Noisy Transmit/Receive Relay. Cutting R28 {2.2k Ohm, 1/4 W} on the X41-1470 Switch Unit , behind the ATTN Switch , will reduce the noise to less than 1/2 by stopping the ATTN Relay from activating on transmit. In late serial number TS-430S', it is easier to cut the only white wire that goes to the Switch Unit than to cut R28.

Problem: Intermittent ALC during transmit and/or intermittent reduction or loss of power output. The power output can sometimes be restored to normal by turning up the microphone gain or by dropping the radio a few inches. Signal reports of intermittent transmit audio distortion are normal.
Note: If the radio continues to be operated after displaying these symptoms, the eventual result is often catastrophic failure of Q2, Q3 [RF driver-transistors], and Q7 [bias-transistor] on the 100W Final Unit.
Why: This problem is caused by repeated thermal expansion and contraction of the cheap, phenolic printed circuit board [PCB] which eventually breaks the two, plated-through the circuit board connections between the output of the 10W driver stage and the input [base] connections to the 100W RF final transistors, Q4 and Q5. When the break occurs, the RF from the drivers does not reach the input [bases] of the final transistors, so there is no load on the driver output transformer, T2. Without a load on its secondary, the peak RF voltage across the primary of T2 runs wild and breaks down the collectors of the driver transistors. When the driver transistors fail and short,, they destroy the bias transistor, Q7, as well. Changing these components is an unpleasant and uncheap job. Worse than that, the same components will most likely fail again unless the real problem on the PCB is taken care of.
Fix: On the component side of the 100W Final Unit circuit board, install a jumper wire between the (outer) end of R12 that is nearest to the base of Q4 and the base lead of Q4. Install a jumper wire between the (outer) end of R13 that is nearest to the base of Q5 and the base lead of Q5. These two jumper wires make sure that the driver RF arrives at the final amplifier transistors, whether or not the plated-trough connections are are doing their job. Another method of fixing the problem is to solder Z-wires in the plated through holes. [a Z-wire is a wire that is passed through the board and whose ends are bent in opposite directions so that it will stay in place during soldering]



Problem: AGC / S-Meter overshoot. This affects the receive audio, causing it to loose volume for about 2 seconds after switching from transmit to receive when a >S9 signal, is on frequency. When this problem occurs, the S-meter will temporarily zoom up to 30db above the real signal level. Turning the RF Gain control down is no help. **Fix**: Most of the trouble is caused by R32 on the IF Unit. R32 is located behind the CW filter space on the circuit board. R32 should be changed from a 390K Ohm to 2.2M Ohm - 3.0M Ohm. The lesser part of the problem is caused by R40 on the RF unit - which is between connectors #4 and #15. R40 is changed from a 470K Ohm to a 20K Ohm - 47K Ohm.

Problem: Complaints of buckshot or splatter from other operators who are using adjacent frequencies. This problem can be caused by improper bias setting for the driver and the final in the 100W Final Unit. The Service Manual describes a simple method of setting the two bias adjustments. A much more common reason for causing splatter is excessive ALC. Here's why: The TS-430S has a sluggish ALC metering circuit and an ALC characteristic that needlessly delays the ALC attack [throttle-down] time. The ALC meter barely moves when there is already an abundance of ALC activity taking place. So, if the ALC meter indicates a mid-scale / normal amount of ALC, the radio is being overdriven. Under this condition, due to the built-in too-lengthy ALC attack characteristic, the radio will produce power output peaks of 140W at the beginning of loud syllables. These peaks can be observed accurately on an oscilloscope. Most power meters are not capable of observing the <2mS overshoot. 140 watts of PEP output may sound good, but it is beyond the linear output power capabilities of the final transistors. The net result is rotten splatter. To reduce splatter, the microphone gain should be adjusted so that the ALC-meter barely moves on loud voice peaks. For those operators who like to see the meter jump whilst talking into the microphone, operating the radio correctly is going to cause emotional stress. This problem can be alleviated by increasing the sensitivity, full clockwise, of the ALC meter adjustment, VR11, on the IF Unit. This will make the ALC meter indication quite lively and some operators quite happy. VR11, which is located on the right/front of the board, is very close to, and easy to confuse with, VR12 which should not be adjusted except per the directions in the Service Manual.

Some repair hints for TS-430

Author: *Chris, HB9BJL - hb9bjl@uska.ch.MODIFICATION.NET*

1. **no display, no TX/RX with certain modes**

   I read the article of Colin Robertson and I would like to tell you that my TS 430 S had exactly the same problem a few years ago soon after purchase. The solution was to replace the excessively leaking Diodes D3 - D7 but that meant to remove the front pane. It took the Kenwood dealer quite a long time to repair it. Meanwhile the exact replacement might not be available anymore. Therefore it might be a good idea indeed to add the diodes in series as you have described.

2. **Low/intermittent RX**

   After a few years of usage I faced the Low / intermittent RX problem. The problem were the Fujitsu print relays on the LPF board. I got around this by replacing all of them. Lucky enough I was able to find them with a major electronics parts distributor who has Fujitsu relays in store.

73s from Switzerland

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General coverage in transmission for the Kenwood TS-430S

1. On the the bottom board of the transceicer find the RF-UNIT (X44-1510-11).

2. Near the two plugs numbered 9 and 10 , you will see two diodes called D39 and D40.

3. Simply cut the two diodes D39 and D40 on the RF-UNIT.

cutting the 2 diodes d39 d40 does not do anything; removing the plug n°10 does the same : nothing

do you have an other trick ?
73
marc fy5ls

it is effective, thanks

TS430s low RX

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After 17 years service my TS430s also exhibited the problem of low RX over frequency ranges which coincided with the ranges of the LPF's on the filter unit.

Fix:

1. Remove filter board, and remove plastic covers of the relays by gently prizing with a small sharp-edged screwdriver.

2. Cut a narrow strip of photo-copy paper, insert it between the contacts, and apply pressure to the contacts as you withdraw the paper. Paper is relatively abrasive, and this will clean the contacts.

3. I found that that some of the contacts hardly made contact before the relay armature was fully home. Fixed by bending the contact finger so that the contacts made before the armature was home - this ensures adequate contact pressure.